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Science | Sciences
Pacific Region
Canadian Science Advisory Secretariat
Science Response 2012/033

SCIENCE RESPONSE TO INFORMATION REQUESTS SUBMITTED TO THE ENBRIDGE PIPELINE PROJECT ENVIRONMENTAL IMPACT ASSESSMENT HEARINGS RESPECTING EULACHON

Context

Fisheries and Oceans Canada's (DFO) Environmental Assessment and Major Projects Division (EAMP), Pacific Region, requested that DFO Science, Pacific Region, on May 15, 2012, provide information regarding specific Information Requests (IRs) submitted to the Enbridge Review Panel that DFO Science has the expertise to evaluate. As the IRs for which Science advice was requested cover a range of issues and scientific disciplines, separate Science Responses have been developed for each category of IRs, and in some cases specific IRs. In addition to science related questions, some IRs included elements that were questions pertaining to DFO policy, management or legal information. This Science Response addresses the scientific elements of the following question:

- Please identify the additional information which is, in DFO's view, required so that the proposed project impacts on eulachon may be adequately assessed

This Science Response report is from the Fisheries and Oceans Canada, Canadian Science Advisory Secretariat, Regional Science Special Response Process (SSRP) of May 29th, 2012 on the Science advice in response to information requests submitted by Intervenors to the Enbridge Northern Gateway pipeline project environmental assessment Panel Review Process. Additional publications from this process will be posted as they become available on the Fisheries and Oceans Canada Science Advisory Schedule at www.dfo-mpo.gc.ca/csas-sccs/index-eng.htm.

Background

The Enbridge Northern Gateway Project proposes to ship dilute bitumen from Kitimat, British Columbia to markets in China and California with tankers of the class Very Large Crude Carriers (VLCC) (Vol. 1, B1-2, Enbridge Northern Gateway Project Section 52 Application). The tanker route from Kitimat through confined waterways in British Columbia and then into open waters of Hecate Strait, Dixon Entrance and Queen Charlotte Sound in British Columbia are illustrated in Figure 1. For assessment purposes Enbridge Northern Gateway defines two areas, the Confined Channel Assessment Area (CCAA) (Figure 2) and the Open Water Assessment Area (OWA) which is BC waters to the territorial sea limit (Figure 1). Incoming ships will deliver cargoes of condensate. Enbridge Northern Gateway estimate 71 condensate and 149 oil tankers call in at the Kitimat terminal for a total of 440 transits per year (Vol. 8C, B3-37, Enbridge Northern Gateway Project Section 52 Application). A marine terminal will be constructed near Kitimat with two tanker berths and one utility berth (Vol. 1, B1-2, Enbridge Northern Gateway Project Section 52 Application). The Project Effected Assessment Area (PEAA) that will be associated with the terminal construction is illustrated in Figure 3.

Two IR submissions were made to the Joint Review Panel (JRP) by DFO. Enbridge Northern Gateway provided responses to requests for information in the IRs. Since then Intervenor review of the Environmental Assessment documents prepared by the proponent (Enbridge Northern Gateway) and of the IRs and the responses by the proponent has resulted in a series of further questions to DFO by Intervenors.

Figure 1. Map illustrating the proposed tanker routes through the Confined Channel and Open Water Assessment Areas (CCAA and OWA). The OWA extends to the territorial sea boundary (from Volume B9-42 Enbridge Northern Gateway Project).

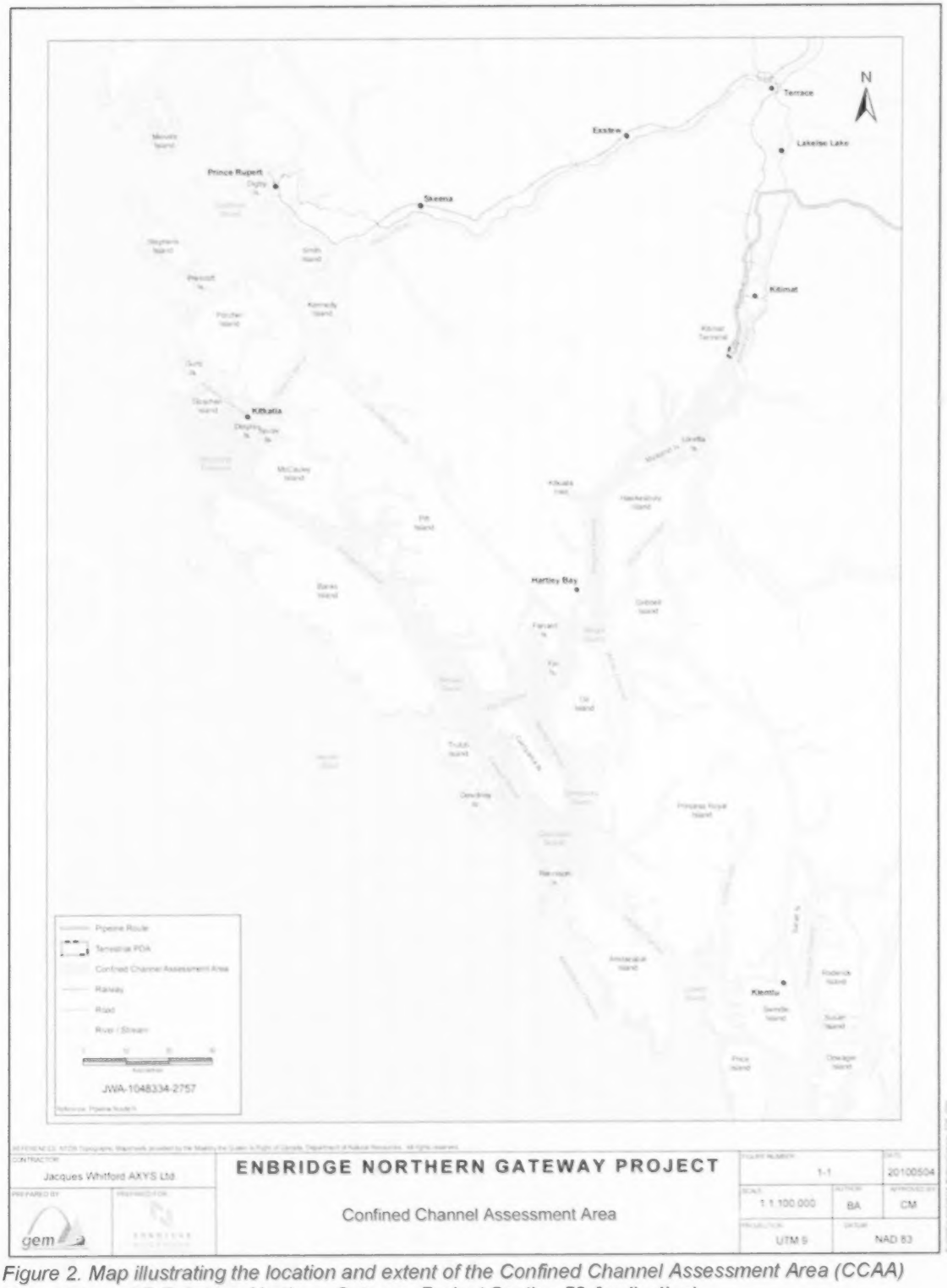

Figure 2. Map illustrating the location and extent of the Confined Channel Assessment Area (CCAA) (from Volume 8B Enbridge Northern Gateway Project Section 52 Application).

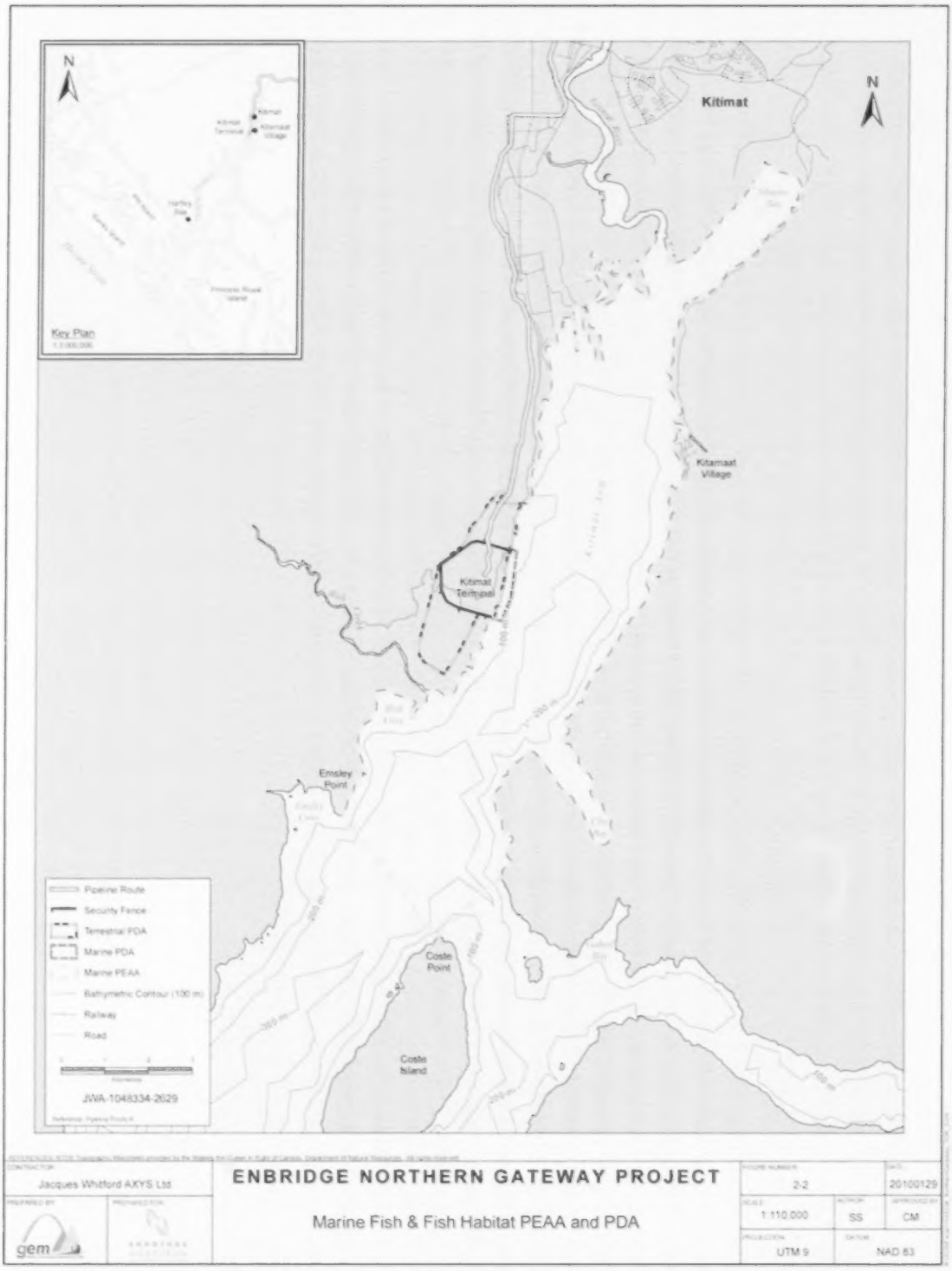

Figure 3. Map illustrating the location and extent of Project Effect Assessment Area (PEAA). (from Enbridge Northern Gateway Project Technical Data Report, Marine Fish and Fish Habitat 2010).

Analysis and Responses

The Kitimat river is a known Eulachon spawning river. Annual First Nations catches ranged between 27.2 t and 81.6 t from 1969-72 (DFO 1969-1972 as cited in Moody 2008). The estimated abundance index declined in the mid 1990's and has remained at a very low level (Moody 2008). In 2000, a negligible run was reported by the Haisla Fisheries Commission into the Kildala River. Foch Lagoon and Gilttoyees Inlets may have eulachon spawning based on the presence of larvae found in the surrounding waters during ichthyoplankton surveys in 1996 (McCarter and Hay 1999).

There is uncertainty around the causes of the decline in spawning success in these rivers systems that are within the PEAA. To properly assess the potential effects of the project on eulachon, further information is required, specifically information on the geo-spatial extent and overlap of the proponent's activities and Eulachon spawning locations, migratory corridors, run times and larval retention time in the estuary and brackish surface water of the inlet.

Although spawning in these systems generally occurs in February and March and seaward migration would take place shortly thereafter, further information is required on how proposed mitigative measures would be employed during these times (e.g. would all activity be suspended during this period?) and how the proponents would assess the effectiveness of the mitigations.

Conclusions

There is significant uncertainty around the potential interaction of the proposed activities and the different life stages of Eulachon. Although the proponent has identified mitigation for the activities, their effectiveness is uncertain. Historic levels of Eulachon in the Kitimat system were much higher; it is uncertain what levels of impact the population could sustain at current depressed levels. Additional information is required about the overlap of proponent activities and Eulachon spawning to assess the efficacy of proposed mitigative measures.

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Sources of information

Enbridge Northern Gateway Project Joint Review Panel 2012. https://www.neb-one.gc.ca/ll-eng/livelink.exe/fetch/2000/90464/90552/384192/620327/customview.html?func=ll&objId=620327&objAction=browse&sort=-name. Accessed May 22, 2012

Moody, M.F. 2008. Eulachon past and present. M.Sc. thesis, Resource Management and Environmental Studies, The University of British Columbia, Vancouver, BC.

McCarter, P.B. and Hay, D.E. 1999. Distribution of spawning eulachon stocks in the central coast of British Columbia as indicated by larval surveys. Department of Fisheries and Oceans. Canadian Stock Assessment Secretariat. Research Document 99/177.

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